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ABSTRACT

The bibliography lists research reports, publications by staff members in professional journals, and presentations at professional and military meetings by the Human Resources Research Organization (HumRRO) during fiscal year 1975. It provides a complete record of HumRRO publications in conjunction with the cumulative Bibliography of Publications as of June 30, 1971, which lists research reports issued since HumRRO's establishment in 1951, and the Bibliography of Publications and Presentations During FY 1972-74 (available as ED 105 155). Abstracts are provided for most items. Items are identified by the following where applicable to indicate availability sources: government contract numbers, AD numbers (Defense Department Documentation Center, DDC), PB numbers (DDC Publication Board code), and ED numbers (Educational Resources Information Center, ERIC). Most of the items are available through National Technical Information Service (NTIS). Three sections list: (1) Work Units and Research Projects (65 items) alphabetically by research program code names, (2) Basic Research (one item), and (3) General Research (eight items) which include those not directly related to a specific research project or related to several efforts. Appended are a list of fiscal year 1975 Technical Reports and Professional Papers by number, an author index, a sponsor index, and a subject index. (Author/MS)

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HumRRO

Human Resources Research Organization

Bibliography of Publications and Presentations During FY 1975

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October 1975

HUMAN RESOURCES RESEARCH ORGANIZATION

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Human Resources Research Organization

Bibliography of Publications and Presentations During FY 1975

October 1975

HUMAN RESOURCES RESEARCH ORGANIZATION
300 North Washington Street
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FOREWORD

The Human Resources Research Organization is a nonprofit research and development corporation whose purpose is to improve human performance, particularly in organizational settings, through behavioral and social science research, development, and consultation. HumRRO was established in 1951, as part of The George Washington University, from which it separated in 1969.

The chief product of HumRRO work is information; thus, reporting the results of research efforts is a major endeavor. To this end, the *Bibliography of Publications and Presentations During FY 1975* has been compiled. It complements the cumulative *Bibliography of Publications as of 30 June 1971* and the *Bibliography of Publications and Presentations During FY 1972-74*. In combination, these volumes serve as a complete record of information about HumRRO research publications.

HumRRO research and development work focuses on a wide range of training technology, organization psychology, and other human factors problems. HumRRO's research and development is done under research agreements with various departments of the Federal Government, with state and other government agencies, with private industry, and with foundations that are involved in human factors responsibilities.

Meredith P. Crawford
President
Human Resources Research Organization

DESCRIPTION OF THE BIBLIOGRAPHY

Purpose

This Bibliography lists the publications and presentations by the Human Resources Research Organization during FY 1975. It provides a complete record of HumRRO publications in conjunction with the cumulative *Bibliography of Publications as of 30 June 1971*, which lists research reports issued since HumRRO's establishment in 1951, and the *Bibliography of Publications and Presentations During FY 1972-74*.

Scope

Research reports issued by HumRRO during FY 1975 are listed. Also listed are publications by staff members in professional journals and presentations at professional and military meetings. Contracts under which research efforts have been performed are identified.

Abstracts have been provided for most items. AD numbers are included on those items that are available to qualified users through the Defense Documentation Center (DDC). PB numbers are included, as appropriate, for items listed in DDC under the Publications Board code. Items deposited in the Educational Resources Information Center (ERIC) are identified by ED numbers. Most of the items are available through the National Technical Information Service (NTIS), U.S. Department of Commerce.

Organization

Items are listed under the research code name (Work Unit or Research Project) or under the type of research effort other than Work Unit or Research Project to which they relate, such as Basic Research. A General section lists items that are not directly related to a specific research project or that are related to several efforts.

Code names for the research programs are listed alphabetically; in each code word group, items are listed chronologically. Within their sections, Exploratory Research and Basic Research efforts are listed sequentially by number, Technical Advisory Service and General publications by date.

If applicable, the listings include identification of the HumRRO Division at which the research was performed.

The appendices contain a list of FY 1975 Technical Reports and Professional Papers by number, an author index, a sponsor index, and a subject index.

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Human Resources Research Organization

Bibliography of Publications and Presentations During FY 1975

WORK UNITS AND RESEARCH PROJECTS

AFTEC—Eastern Division

Basic Research Relevant to U.S. Air Force Technical Training
(Research for the Air Force Office of Scientific Research)

Transfer and Use of Training Technology: A Model for Matching Training Approaches, by Edgar M. Haverland, Technical Report 74-24, 80 pp., October 1974. AD-A005 816

A model for evaluating training approaches or innovations in relation to the requirements, resources, and constraints of specific training settings was developed. The model consists of two parallel series of questions, one concerning the characteristics of the training approach under consideration, and one concerning the corresponding characteristics of the training settings (including the abilities and other characteristics of trainees, and the characteristics of the training content). The model has been evaluated by subjecting it to the criticism of training managers and curriculum designers in Air Force Technical Training Centers, and by applying it to a training approach and to a training setting.

"A Model for Matching Training Approaches With Training Settings" (excerpt from Technical Report 74-24), by Edgar M. Haverland, October 1974.

The purpose of this model is to facilitate the systematic gathering of information on the characteristics of training approaches and training settings, and to provide a framework for organizing this information so that the "fit," or potential usefulness of training approaches in particular training settings, can readily be evaluated. The development and preliminary evaluation of this model is described in HumRRO Technical Report 74-24.

ASSERT—Division No. 4

A Training Model for the Interpersonal Aspects of Competence
(Research for Supplemental Education Service, Inc.)[1]

A Program for Improving the Interpersonal Competence of High School Students, by Larry L. Lackey, Final Report FR-D4-74-19, July 1974.

Students were trained in the implementation of an interpersonal relations training model and in the conduct of small discussion groups of peers. These students then served as training group leaders in conducting the training program for high school volunteers. Student self-reports, observations of classroom teachers, and a questionnaire measure of assertiveness reflected a significant positive increase in interpersonal competence by many of the program participants.

Instructor's Manual for "A Program for Improving the Interpersonal Competence of High School Students," by Larry L. Lackey, Research Product RP-D4-74-20, July 1974.

[1] Research performed under a subcontract with Supplemental Education Service, Inc. through Grant Number OEG-4-73-3232 from the U.S. Office of Education under the terms of the Emergency School Aid Act.

ASTARTE—Eastern Division

A Training Program for Tumor Registry Secretaries
(Research for Louisiana Regional Medical Program)

The Development and Evaluation of a Correspondence Training Program for Tumor Registrars, by C. Dennis Fink and Robert F. Ryan, Technical Report 74-19, 27 pp., August 1974. PB 235 217

A program designed to teach the medical vocabulary required of tumor registrars was developed and administered to 33 persons, 31 of whom were employed at 25 Louisiana hospitals. The training program was administered as a correspondence course covering such topics as the purposes of a tumor registry and how the registry is established; how to code information contained on a tumor registry; and how to abstract the chart of a cancer patient. Criterion test score results showed that on 3 of 10 criterion tests, at least 75% of the students scored 65 or higher. The methods described in this report can be used in developing and field-testing draft training program materials in many different subject areas.

ATC-PERFORM—Western Division

Review, Evaluation, and Refinement of Performance Training in Army Training Centers
(Research for the Department of the Army)

"Performance Oriented Self-Paced Instruction in Basic Law Enforcement," by A. L. Kubala; J. R. Suchman; CPT R. Goodchild, MPC; and SFC J. Weaber, USA, *Military Police Law Enforcement Journal*, vol. 1, No. 5, Winter 1975, pp. 20-23.

An instructional module called *Investigate an Accident* is tried out at the MP School by a fictitious Army private who had a real-life counterpart during an experimental tryout of performance-oriented training using peer instruction in May 1974. The instruction for the module was developed as part of the regular systems engineering effort for the Basic Law Enforcement Course. The article presents the advantages and disadvantages of the technique used in the module. Advantages include: (a) instruction is performance-oriented, (b) quality control is assured with "GO/NO GO" testing, (c) instructors are free to serve as resource persons and quality control agents, (d) instruction is individualized, and (e) the student-teacher ratio is one-to-one. The experimental instruction tried out in *Investigate an Accident* was not only preferred by the students, but was also more effective.

A Study of the Retention of Skills and Knowledges Acquired in Basic Training, by Robert Vineberg, Technical Report 75-10, 17 pp., June 1975. AD-A012 678

As part of the Army's emphasis on performance-based instruction in Basic Combat Training (BCT), a study was performed to measure retention of basic training skills. Two hundred soldiers were administered 13 subtests of the Comprehensive Performance Test (CPT) in seven subject areas (e.g., First Aid, Drill and Ceremonies) after finishing BCT, and six weeks later during Advanced Individual Training. Scores from baseline and retention testing are presented, separately and in combination. Findings indicate that the probability of the average soldier passing a CPT subtest at the end of basic training was .81, of passing during retention testing six weeks later, .63, and of passing both at the end of basic training and during retention testing was .55. Depending on the measure of retention used, there was an average decrease of approximately 18% or 26% in performance on the CPT when it was readministered six weeks after the end of BCT. For individual subtests of the CPT, the average decrement in performance ranged between 5 and 44%.

Self-Pacing a Gross Motor Skills Course: Crawler Tractor Operator, MOS 62E20, by Mark F. Brennan and John E. Taylor, Technical Report 75-19, 53 pp., June 1975. AD-A014 317

As part of the Army's emphasis on performance-oriented instruction in Army Training Centers, a study was conducted to determine the feasibility of using self-paced instruction in a gross motor skills course. The Crawler Tractor Operator Course, MOS 62E20, a seven-week heavy equipment course conducted at the U.S. Army Training Center, Engineer, Fort Leonard Wood, Missouri, was selected for the study, which involved approximately 300 trainees in Mental Categories I through IV. Findings indicate that in the self-pacing system, training managers can (a) train on additional pieces of equipment, if trainees are retained for the full seven weeks; or (b) achieve substantial

The Development of an Open-Access, Performance Oriented Curriculum for Training the Military Policeman (MOS 95B20), by J. Richard Suchman, Albert L. Kubala, and John E. Taylor, Final Report FR-WD(CA)-75-9, June 1975. AD-A012 726

The Basic Law Enforcement Course (BLEC) at the U.S. Military Police School at Fort Gordon was revised to reflect the Army's emphasis on performance-oriented instruction. Through a unique combination of systems engineering, group problem-solving, and peer instruction, an individualized, open-access curriculum design was developed. Findings were: (a) instructors and supervisors of BLEC were able to perform the difficult task of systems engineering and generate new and effective instructional systems; (b) the trial run demonstrated that an individualized, open-access model is workable even with a curriculum composed of a mixture of hard and soft skills; (c) all instructors were strongly favorable to the new course; (d) students liked the course; (e) the performance of students in the trial run was significantly better than those who received the equivalent training by the conventional classroom method. Conclusions were: (a) individualized, open-access training can be effectively adapted to BLEC within the limits of cost feasibility; (b) with appropriate guidance, instructors can system engineer a performance-oriented curriculum designed to achieve soft and hard skill development; (c) the active involvement of cadre in systems engineering new courses assures a high level of acceptance by them of the new course and of their new functions in implementing the course; (d) performance of students trained in an individualized, open-access system is superior to students trained under conventional classroom methods; and (e) students trained on an individualized, open-access system prefer it to the conventional instruction.

"Performance of First-Tour WAC Enlisted Women: Data Base for the Performance Orientation of Women's Basic Training," by H. Alton Boyd, L. Paul Dufilho, Jacklyn E. Hungerland, and John E. Taylor. Final Report in preparation.

This report summarizes data on duties, activities, and attitudes of a representative worldwide sample of 1,573 first-tour enlisted women (EW) as reported by themselves and a representative sample of 156 of their supervisors. Data were gathered by questionnaires from first-tour EW, and by both questionnaires and interviews from supervisors. The report describes the introduction of performance-oriented instructional procedures into Women's Basic Training (BT) at Fort McClellan, and the revision of Army Training Program 21-121 to incorporate the philosophy and principles of performance-oriented training. Major findings from the data indicated the majority of BT graduates (a) have high levels of education, (b) find both BT and their subsequent assignments different from what they expected, (c) express positive feelings regarding their own Army experience, (d) have confidence in their supervisors, (e) report low frequency of use of BT-taught knowledge and tasks in their first duty assignments, (f) are not career oriented, and (g) perform well during their first tours. Supervisors reported that (a) the major characteristics distinguishing good from poor performers are job-related attitudes, (b) BT does not adequately develop these attitudes, and (c) EW and EM perform equally well.

AUDREAD—Western Division (CA)

Auding and Reading: A Developmental Model and Review of Literature Bearing on Hypotheses Derived From the Model

(Research for the Department of the Air Force, Human Resources Laboratory)

Auding and Reading: A Developmental Model, by Thomas G. Sticht, Lawrence J. Beck, Robert N. Hauke, Glenn M. Kleiman, and James H. James, HumRRO paperback, 160 pp., 1974; issued as AFHRL TR 74-36, January 1974 (HumRRO Technical Report 74-11, June 1974, 113 pp.)

Four hypotheses consistent with an auding/reading model were derived: (1) the ability to comprehend language by auding will surpass ability to comprehend language by reading during early school years, until reading skill is acquired—following which time the ability to comprehend by auding and reading will become equal; (2) performance on measures of ability to comprehend language by auding will be predictive of performance on measures of ability to comprehend

language by reading, after reading skill is acquired; (3) performance on measures of reading rate and auding rate will be comparable, after reading decoding skill has been developed; and (4) training in comprehending by auding will transfer to reading, after reading skill is acquired. It was concluded that reading is based upon, and utilizes the same conceptual base and languaging competencies as used in auding, and that reading skills can be improved through training in languaging using oracy skills.

AVTRAIN—Division No. 6

Development of Coast Guard Aviation Synthetic Training Equipment and Training Programs (Research for the U.S. Coast Guard)

The Development of U.S. Coast Guard Aviation Synthetic Training Equipment and Training Programs, by Robert N. Isley, Winon E. Corley, and Paul W. Caro, Final Report FR-D6-74-4, October 1974.[1]

A three-phase study of the Coast Guard's aviation training program included: (a) a thorough analysis of flight training needs and identification of training device requirements, (b) research on the development and procurement of the required devices, and (c) research on the development of synthetic, flight, and academic training programs. The second and third phase of the study dealt primarily with the Coast Guard's rotary wing training requirements and with the Variable Cockpit Training System (VCTS).

CATALIST—Eastern Division

Computer Applications to Training for Advanced Learning in Integrated Systems Technology (Research for the Department of the Army)

Student Initiated Reports: Operational Analysis in the Evaluation of CAI Curricula, by Michael J. Hillelsohn, Professional Paper 15-74, 24 pp., September 1974; based on paper for meeting of the Association for the Development of Computer-Based Instructional Systems, Washington, January 29-February 1, 1974.

Operational analysis is defined as a part of formative evaluation, taking place while a course is in progress. Student-perceived problems, as reflected by student-initiated reports, are the source of data for this phase of formative evaluation. The self-reporting techniques can reveal individual differences in student/learning-environment interactions which are not obtainable (or are difficult to obtain) by other means. The individual student's perceptions can then be used to improve the instructional program. This technique (report) is described and some applications of the data for administrative purposes are discussed. The administrative staffing for the IMPACT operational CAI course(s) is described.

CHARGE Interactive Graphics System Terminal: Theory of Operation, by Ronald J. Swallow, Technical Report 74-26, 69 pp., December 1974.

This report documents the CHARGE Interactive Graphics System terminal. Designed initially for use in instructional systems, the CHARGE terminal can provide considerable and versatile graphics display for many applications (including equipment design, trouble-shooting, etc.). While being cost-competitive, the CHARGE terminal system can achieve color, gray level, 3-D perspectives, and rapid updating. Perspective views can be simply, rapidly, and economically generated from a (3-D) xyz-coordinate, dynamically changing, "real world" description. In this report, the terminal's image encoding and hardware architecture are described from a theoretical and detailed logic point of view.

[1] ["The opinions or assertions contained herein are the private ones of the writers and are not to be construed as official or reflecting the views of the Commandant or the Coast Guard at large."]

LESSON MONIFORM - An Authoring Aid for the PLATO IV CAI System, by Russel E. Schulz, Research Product RP-ED-75-6, April 1975.

This text is a programmed guide for the use of HumRRO-developed authoring aids for the PLATO IV Computer-Administered Instruction (CAI) system. These authoring aids, called Monitoring Formats (MONIFORMS), may be used by any individual who is preparing instructional material for the PLATO IV CAI system. The text contains only guidance for question preparation using MONIFORMS. The material in this guide is also available in CAI form on the PLATO IV system in Lesson "moniform."

CHARGE Image Generator: Theory of Operation and Author Language Support, by Roger L. Gunwaldsen, Technical Report 75-3, 132 pp., May 1975. AD-A012 672

This report documents the image generator function and author language software support for the CHARGE Interactive Graphics System. Designed initially for use in instructional systems, the CHARGE Interactive Graphics System can provide considerable and versatile graphic displays for many applications (including equipment design, troubleshooting and mathematics). While being cost-competitive, the CHARGE system can achieve color, gray level, three-dimensional (3-D) perspectives, and rapid updating. Perspective views can be simply, rapidly, and economically generated from a (3-D) xyz-coordinate, dynamically changing, "real world" description. This report describes from a functional viewpoint, the CHARGE system's procedure for representing a complex 3-dimensional world, forming a colored perspective view of this 3-dimensional world, and then encoding the perspective in a format for transmission to and display on a CHARGE terminal.

MONIFORMS as Authoring Aids for the PLATO IV CAI System, by Russel E. Schulz, Technical Report 75-5, 31 pp., May 1975. AD-A012 674

An analysis of portions of the HumRRO-developed computer-administered instruction (CAI) course in COBOL Programming, and a survey of representatives from Advanced Research Project Agency (ARPA) PLATO IV installations indicated a need for authoring aids that could be prepared and programmed easily and quickly. The nine MONIFORMS resulting from this study are useful for rapid development of certain frequently used CAI material. These authoring aids are partially precoded formats which make use of HumRRO subroutines for question execution. MONIFORMS are used for development of single questions—of the multiple choice, constructed response, and matching type—that can be combined with material prepared by conventional methods. They are responsive to users' needs, cover most of the frequently used question types, reduce preparation time, do not require TUTOR programming experience for their completion, combine readily with conventionally coded material, and are economical with author-computer lesson space. Future MONIFORM activity will include increasing their number and variety, and developing a second generation type MONIFORM.

Learner Control of Instructional Sequencing Within an Adaptive Tutorial CAI Environment, by Robert J. Seidel, Harold Wagner, Richard D. Rosenblatt, Michael J. Hillelsohn, and John Stelzer, Technical Report 75-7, 50 pp., June 1975. AD-A012 675

This study was designed to test effects of learner control at the level of instructional *sequencing* within a self-contained tutorial course administered by an adaptive computer program. Following an entry test period, students were administered tutorial computer administered instruction (CAI) in a COBOL course (which averaged 30 hours), with four possible types of learner control variables. The relative contributions and interactions among the learner-control and entry characteristic variables were assessed with respect to instructional effectiveness and efficiency as represented by the dependent measures. One major finding was that the particular individuals designated high or low *performers* differed depending upon the particular instructional tasks. Yet, the phenomenon of high and low *performance* was consistent across two major sections of the course. High and low performers differed with respect to the usage of options, as well as their level of aspiration (LOA) settings concerning their performance. Research is needed to identify more specifically the taxonomic characteristics of instructional tasks related to student profiles of high and low performers. Another significant finding was that self-assessment can make a significant contribution to instructional management, whether the latter be by students or by the learning system. Research requirements for systematic study of levels and types of self-managed learning paradigms are discussed.

CLASSROOM—Western Division (TX)

Improving the Classroom Effectiveness of Army Instructors
(Research for the Department of the Army)

Improving the Classroom Performance of Army Instructors, by William H. Melching and Susan M. Larson, Technical Report 75-6, 59 pp., May 1975. AD-A015 005

Using *A Model of the Functions of a Master Instructor* (HumRRO-TR-73-23) as a guide, procedures and materials for training Army instructors to improve their classroom effectiveness were developed. This report elaborates on the activities and experiences an instructor would undertake to acquire or update the skills described in the model. The main emphasis is on description of recommended activities to be undertaken in connection with the performance of each instructor task cited in the model.

COMMUNICATE—Central Division (L)

Dimensions of Attitude and Behavioral Change Programs
(Research for the Department of the Army)

"The Army Racial Awareness Program: A Case Study of Program Impact on Personal Values," by Michael R. Vaughan and Richard E. Kriner, Special Report SR-CD(L)-75-2, April 1975.

The effects of two forms of presentation of the Army Racial Awareness Program on the personal values of *equality* and *freedom* were assessed. Subjects were Army personnel assigned to RAP at Fort Meade, Md. The research instrument was the Rokeach Value Survey, in pretest-posttest administrations. Results suggested that the official RAP presentation version—lecture and discussion—was more effective than a lecture-only version in changing personal values. Importance attached to equality was increased among RAP participants but not among lecture-only participants. Importance attached to freedom was relatively unaffected in both groups. The size and statistical significance of value change among RAP participants varied according to characteristics such as age, race, rank, and education. Such differences were not found among lecture-only participants. Subjects indicated approval of the RAP program and its continuance for all Army personnel.

The Effects of Group Size and Presentation Method on the Impact of a Drug Presentation, by Richard E. Kriner and Michael R. Vaughan, Technical Report 75-11, 48 pp., June 1975. AD-A012 679

The effects of group size (large vs small) and method of presentation (lecture, structured discussion, and unstructured discussion) on attitude change were assessed in a population of basic trainees, tested before and after a one-hour drug presentation. Neither group size nor method of presentation had a statistically significant effect upon attitude change. The artifact of statistical regression is discussed as it relates to the assessment of attitude change in drug education and the problems encountered in separating regression effects from treatment effects.

COPE—Eastern Division

Development of a Method for Training Military Personnel for Interaction With Foreign Nationals
(Research for the Department of the Army)

"Cultural Self-Awareness and Communication," by Alfred J. Kraemer, *International Educational and Cultural Exchange*, vol. 10, no. 3, Winter 1975, pp. 13-16. (Abbreviated version of *Development of a Cultural Self-Awareness Approach to Instruction in Intercultural Communication*, Technical Report 73-17, July 1973.)

When persons of differing cultural backgrounds attempt to communicate with each other, each makes unwarranted, culturally conditioned assumptions about the other. This makes communication difficult. An exercise was designed to reduce this effect through increased cultural self-awareness. Participants analyze video recordings of staged "excerpts" from intercultural dialogues, containing subtle manifestations of cultural influences present in American society. The participants learn how to recognize such manifestations. To facilitate this difficult process, the excerpts are grouped into sequences, with each sequence showing several manifestations of the same cultural influence while noncultural influences are being varied from excerpt to excerpt. In each sequence, the cultural influence is a common element gradually brought into focus.

DOT-MC—Eastern Division

Curriculum for Secondary School Driver and Traffic Safety Education
(Research for the Department of Transportation, National Highway Traffic Safety Administration)

Safe Performance Curriculum for Secondary School Driver Education: Program Development, Implementation and Technical Findings, by Mary C. Riley and Robin S. McBride, Technical Report 74-23, 270 pp., September 1974 (Final Report, September 1974). PB-241 210

To determine the effectiveness of a model driver education curriculum in leading to safe vehicle operation among beginning drivers, the Safe Performance Curriculum was developed and pilot tested. The curriculum was based on instructional objectives derived from an analysis of the driver's tasks. In the pilot test, students were randomly assigned to one of the following: (a) Safe Performance Curriculum (SPC); (b) a Pre-Driver Licensing (PDL) course, consisting of instruction in the minimum requirements needed for the granting of a driver's license; or (c) a control group, which received no formal instruction through the secondary school system. Intermediate criterion measures of performance, knowledge, skill and attitude were administered to students in the first two groups. Program effects were measured in terms of curriculum (SPC vs. PDL), sex, and scholastic achievement level (lower vs. upper half of class). Evaluation of knowledge and performance measures indicated a general trend toward higher scores by the SPC students, by students in the upper half of their class, and by male students. Recommendations are for further revision and refinement of the intermediate criterion measures and for a follow-up study using a more controlled experimental design and a larger number of subjects.

ENABLE—Eastern Division

Facilitating Employment of Disabled Veterans
(Research for the Department of Labor, Manpower Administration)

Wanted: Jobs With Fair Pay for Veterans With Dis-abilities, by Thurlow R. Wilson and John A. Richards, HumRRO paperback, 41 pp., December 1974; issued as *Jobs for Veterans With Disabilities*, Department of Labor (Manpower Administration), Manpower R&D Monograph 41, 1975.

This handbook is a practical guide to the employment problems of the disabled Vietnam-era veteran. Information is provided and possible solutions are suggested for use by job developers, vocational counselors, service officers of veterans organizations, Employment Service administrators, and employers. The handbook is based on a comprehensive study of the disabled veteran's employment problems conducted for the Department of Labor, June 1973-October 1974. Of the handbook's three main sections, the first describes the characteristics of disabled veterans, their employment problems, how they look for work, counseling and training received, employer attitudes, and affirmative government action taken. The second section explores the employment experiences of four veterans whose prospects range from excellent to discouraging. In the third section, various government training and employment assistance programs are described, among them VA programs, the President's Veterans Program, the Jobs for Veterans program, and certain federally funded training programs.

Disabled Veterans of the Vietnam Era: Employment Problems and Programs, by Thurlow R. Wilson, John A. Richards, and Deborah H. Bercini. Technical Report 75-1, 332 pp., January 1975. PB-239 667 ED-106 526

This study examines the problems disabled Vietnam-era veterans face when looking for work. The central element is a survey of Vietnam-era veterans with service-connected disabilities. Other information sources include public and private employers, State Employment Service personnel, Veterans Administration personnel, and representatives of veterans' service organizations. It was found that disabled Vietnam-era veterans had an unemployment rate nearly twice as high as that for their nondisabled peers, and that more severely disabled veterans had the most difficulty in finding work. A disability combined with other disadvantaging factors, such as low educational attainment, greatly increases the veteran's job-finding difficulties. Many disabled veterans reported needing more help from the State Employment Service, especially in communicating with employers about their abilities and limitations. Very few employed disabled veterans felt

ENABLE *(Cont.)*

the Employment Service is the most useful source of job help. The relationship between the Employment Service and the Veterans Administration in providing services to disabled veterans is discussed; on the local level there seems to be little coordination between the two agencies. Several recommendations are made for additions to, and changes in, employment assistance programs for disabled veterans.

Executive Summary Based on "Disabled Veterans of the Vietnam Era: Employment Problems and Programs, Technical Report 75-1," by Thurlow R. Wilson, John A. Richards, and Deborah H. Bercini, 15 pp., January 1975.

This document summarizes the results of a study of the employment of Vietnam-era veterans with service-connected disabilities. The objective of the research was to determine the nature of major problems confronting veterans with service-connected disabilities in seeking and holding jobs, and to explore possible solutions.

"Equal Opportunity for Disabled Veterans?" by John Richards, *Manpower*, vol. 7, no. 3, pp. 15-22, March 1975.

This article is based on a comprehensive study of the disabled veteran's employment problems conducted for the Department of Labor, June 1973-October 1974 (HumRRO TR 75-1). Disabled Vietnam-era veterans have an unemployment rate nearly twice as high as that for their non-disabled peers, and more severely disabled veterans have the most difficulty in finding work. The study calls for greater emphasis on identifying the needs of disabled veterans and more extensive and intensive job development.

ESPRIT—Division No. 2
Development of Methods for Improving Soldier Adjustment to the Army
(Research for the Department of the Army)

Changes in Soldier Attitudes, by Eugene H. Drucker, Technical Report 74-21, 43 pp., August 1974.

As part of a study of methods for increasing motivation and preventing attitude deterioration of the enlisted man, responses to specific items in a 1970 HumRRO attitude survey conducted at Fort Knox were compared with responses to the same items in several surveys conducted by the U.S. Army Troop Attitude Research Branch during and immediately following World War II. Caution must be exercised in making such comparisons since responses to attitude items can be affected by many factors, including sample composition, outdated phrasing, willingness to respond candidly, influences from other items, administrative procedures, unit or post differences, and likelihood of combat participation. Results of the response comparison suggested several areas of possible similarities and differences in soldier attitudes over the 20 to 25 year period; they also showed how historical comparisons can affect the interpretation of responses to these items. A review of the literature dealing with the process of attitude change gave special attention to the dissonance and functional theories of attitude change for possible implication with reference to changing soldier attitudes.

FLIT—Western Division (CA)
Development of a Prototype Job-Functional Army Literacy Training Program
(Research for the Department of the Army)

A Program of Army Functional Job Reading Training: Development, Implementation, and Delivery Systems, by Thomas G. Sticht, Final Report FR-WD(CA)-75-7, June 1975. AD-A012 272

This report describes the development of an experimental program of job reading training designed to provide a level of functional literacy appropriate to minimal job task reading requirements in six major MOS career clusters. Program effectiveness for both general and job

FLIT *(Cont.)*

reading training is described in data based on the reading performance of some 3000 adult students at the six Army Training Centers at which the program was implemented. Reading Training performance was measured by both a standardized test of general reading comprehension and an experimental measure of the job reading task skills required to learn and to perform a job. The research also investigated the feasibility of three alternative delivery systems for providing job reading training concurrently with other components of job training. Major findings were: (a) a substantial portion of job trainees are deficient in job reading skills; (b) six weeks of focused job reading training improved job reading skills to the seventh grade reading level; and (c) programs of integrated job reading and job skills training are feasible.

HITVAL—Western Division (TX)

Human Factors Influences on Probabilities of Hit by Antiaircraft Guns
(Research for the U.S. Army Ballistic Research Laboratories)

A Report of HumRRO Activities in Support of Project HITVAL, by Robert D. Baldwin, Albert L. Kubala, Robert J. Foskett, and Leo C. Benson, Final Report RP-WD-(TX)-75-3, January 1975. AD-A00 8277

This report describes a joint service test conducted to estimate the hit probability of selected non-U.S. air defense gun systems.

IDENTIFY—Division No. 4

Identification of the Individual Differences Involved in Human Mine Detection
(Research for the U.S. Army Mobility Equipment Research and Development Center)

Investigations of the Human Factors Involved in Mine Detection in Varying Operational Environments, by Jeffery L. Maxey, Theodore R. Powers, T.O. Jacobs, and George J. Magner, Technical Report 74-18, 103 pp., August 1974. AD-784 201

This report summarizes findings from the four research tasks comprising Project IDENTIFY for FY 74. During FY 73 research into the identification of the individual differences involved in mine detection produced a body of human factors data relevant to the mine detection problem. A major purpose of the FY 74 research was to continue gathering and analyzing human factors data in the area of unaided mine detection. This research was designed not only to gather additional human factors data for an unpopulated field environment *(Task D)*, but also to gather it for a built-up area environment *(Task E)*. In addition, it was designed to identify the human factors involved in vehicular operations, both along an established road and in a cross-country setting *(Task F)*. This research also provided an opportunity to test and evaluate a film simulator developed by the Picatinny Arsenal as a tool for the selection and training of military personnel *(Task D)*. Finally, it provided an opportunity to re-examine the data from the FY 73 HumRRO study *(Task G)* to investigate the reliability of the data from individual subjects, the construct validity of the individual measurements, and the underlying dimensions of field detection performance.

IMPRESS—Division No. 4

Improving Assessment Criteria and Counseling Methods
(Research for the Department of the Army)

Research on Assessment Criteria and Counseling Methods, by James A. Salter and Joseph A. Olmstead, Technical Report 74-25, 80 pp., December 1974.

This report describes work on two sub-units of a project concerned with research on criteria for validating assessment center results and methods for communicating assessment results to persons assessed. The first sub-unit was concerned with development of a criterion instrument to be used

in validation studies of assessment results. A 50-item instrument for obtaining ratings of leader effectiveness was developed. It was concluded that the refined reliabilities are acceptable for a rating instrument which was remotely administered under field conditions and for which all judges did not evaluate all subjects. The second sub-unit dealt with analyses of assessment feedback methods and suggestions for uses of several different methods by the U.S. Army Infantry School (USAIS) Assessment Center.

INTERFACE—Western Division (TX)
Simulation and Training Methods for Maintenance and Operation of Advanced Military Electronics Systems
(Research for the Department of the Army)

"Designing Printed Instructional Material: Content and Format," by Elmo E. Miller, Research Product in preparation.

LEADDIM—Division No. 7 (Social Science)
Leadership in the Seventies: Redefinitions of Leader Behavior
(Research for the U.S. Army Research Institute for the Behavioral and Social Sciences)

Investigations of Perceptions of Army Leadership: Development of a Measuring Technique (revised),[1] by Joel M. Reaser, Michael R. Vaughan, and Richard E. Kriner, Final Report FR-D7-74-133, February 1974; included as a 100-page appendix in *Development of a Measure of Army Leadership Climate: The Military Leadership Behavior Survey*, by Ronald G. Downey, ARI Research Problem Review 74-5, December 1974.

This project was directed at developing a leadership survey instrument appropriate for field administration and scoring. The questionnaire pretested was an extension of the instrument used by the CONARC Board survey in 1971 to assess the status of leadership in the Army. The extended questionnaire was completed by over 1600 Army personnel. The dimensions of leadership found in the analysis of the 1971 survey data were essentially replicated in the analysis on the same items from the current survey. A factor analysis of the entire set of items yielded dimensions very similar to those found using the original set of items. In comparisons of groups differentiated by race, pay grade, and officer branch, significant differences were found in the ratings of superiors on the four dimensions of leadership. Use of personalized phraseology in the questionnaire resulted in a slightly higher return rate than was found from the collectively phrased item questionnaire.

MEDIA—Division No. 2
Improving Media Implementation in Army Training Programs
(Research for the Department of the Army)

The Motion Variable in Procedural Learning, by Ronald W. Spangenberg, Professional Paper 74-14, September 1974; reprint from *AV Communication Review*, vol. 21, no. 4, Winter 1973, pp. 419-436. AD-A002 304

The effects attributable to motion were examined in a procedural learning task learned by observing a demonstration. In Study I, 40 male subjects disassembled an M85 machine gun; two conditions were created to compare a motion sequence with a still sequence. Study II was designed to test the hypothesis that motion focuses the subject's attention on the direction of movement or critical elements of the display. The results indicate that performance in the disassembly of a complex weapon by groups seeing a television display that portrays motion was superior to that of groups seeing a television display composed of a sequence of still shots. The portrayal of motion does not focus the subject's attention upon critical elements of the display.

[1] Originally entitled: *Military Leadership in the Seventies: A Closer Look at Dimensions of Military Leader Behavior.*

MEDNET—Eastern Division

Evaluation of the Impact of the CAI Network on the Using Institutions (Research for the National Library of Medicine)

Evaluation of the Experimental CAI Network (1973-1975) of the Lister Hill National Center for Biomedical Communications, National Library of Medicine, by Martin L. Rubin, Beverly Hunter, and Marilyn Knetsch, Final Report FR-ED-75-1, January 1975. PB-239 358

This report describes the evaluation of the biomedical CAI Network Experiment, established by the National Library of Medicine in 1973 to test the feasibility of sharing CAI learning materials through a national computer network. The evaluation is designed to assist decision makers in planning future mechanisms for distributing biomedical CAI. The study is focused on the institutions (95 as of October 1974) and people who use the Network and the contractors who supplied the CAI Library. Data sources include case studies, user reports, and interviews with hospital and medical school administrators, faculty, librarians, computer laboratory staff, and students. Network usage is analyzed by program type, by user institution, and by class of user. Also analyzed is the impact of the Network on curricula, faculty, students, libraries, and media centers, as well as the cost/benefits. The report includes a roster of participants in the Network Experiment.

MODE—Eastern Division

Methods of Research Into Data Acquisition in Selected Social Problem Areas in the Military (Research for the Department of the Army)

Drug Usage Rates as Related to Method of Data Acquisition, by George H. Brown, Technical Report 74-20, 41 pp., August 1974. ED-097 618.

This report documents two studies concerned with the effect upon obtained drug usage rates of various methods of data acquisition. Data were collected in the summer of 1972. One study compares the anonymous questionnaire and the personal interview. The other compares five different types of questionnaire administrators. The research subjects were Army enlisted personnel in grades from E1 through E5. There were approximately 400 men in the first study, and 500 in the second. In both studies, the obtained drug usage rates, by a variety of criteria, did not differ for modes of data collection.

Self-Disclosure on Army Surveys: Survey Procedures and Respondent Beliefs Related to Candidness, by Thurlow R. Wilson and Theodore R. Rosen, Technical Report 75-2, 68 pp., April 1975. AD-A012 671

The purpose of this study was to analyze the beliefs and attitudes of military personnel that influence their willingness to provide candid information on surveys concerned with various social problem areas, such as drugs, racial prejudice and dissatisfaction with the Army. Data were collected by means of questionnaires that required the respondent to place himself in hypothetical situations with different types of survey administrators, guarantees of confidentiality, and survey topics. The respondent indicated his willingness to give candid information on each problem area with each administrator with each guarantee of confidentiality. There were 1,490 subjects surveyed from four Army posts in the continental United States (E1-E9, 01-03). The respondents were found to be most willing to give candid information on surveys administered by a civilian under anonymous procedures or, especially, randomized inquiry procedures. Officers were found to have a strong preference for randomized inquiry, supporting earlier work. Career-oriented personnel indicated a greater reluctance to divulge sensitive information about themselves. Personnel of all ranks showed strong concern over the ability to identify their anonymous responses by using demographic data. Findings indicated that few respondents would believe guarantees that survey information was to be used for research purposes only.

A Test of the Forced Alternative Random Response Questionnaire Technique, by Joel M. Reaser, Steven Hartsock, and Arthur J. Hoehn, Technical Report 75-9, 41 pp., June 1975.

This study tested a variation of the random response surveying strategy designed for lengthy questionnaires to be used in group administrations or mail surveys. A questionnaire was mailed to a random sample of 3000 company grade officers divided into three groups. One group

received a conventional questionnaire. The second group received a random response questionnaire (FARR-50 technique) using a 50% likelihood of having to respond honestly. The last group received a random response questionnaire (FARR-83 technique) using a 83.3% likelihood of having to respond honestly. It was found that subjects respond more honestly, i.e. with greater estimated incidence of true positive response, to sensitive questions when given a low level of protection provided by the FARR-83 technique. Rates of response and estimated levels of prevalence were higher when subjects were given *some* protection than when they were forced to answer the questions honestly more frequently—even though the latter afforded greater protection.

Randomized Inquiry vs. Conventional Questionnaire Method in Estimating Drug Usage Rates Through Mail Surveys, by George H. Brown, Technical Report 75-14, 32 pp., June 1975. AD-A012 681

The purpose of this study was to compare the conventional questionnaire and the Randomized Inquiry (RI) technique as methods of conducting a mail survey of illicit drug use. The latter technique is designed specifically to provide maximum assurance of anonymity. Also compared was the effect of advance notice upon return rate. Questionnaires of the appropriate type were sent to random samples of junior enlisted and junior officer personnel in the U.S. Army in the Continental United States. Total number of target research subjects was approximately 4,000. Illustrative findings were that (a) return rates were significantly higher for the conventional questionnaire; (b) advance notice enhanced the return rate for officers, but not for enlisted men; and (c) reported drug usage rates were not significantly related to the method of data acquisition.

The Prevalence of Drug Abuse in the Army: A Comparison of Urinalysis and Survey Rates, by Joel M. Reaser, John A. Richards, and Steven L. Hartsock, Technical Report 75-17, 73 pp., June 1975. AD-A012 683

This research project, conducted in the Spring of 1973, had two objectives: (a) to estimate the difference between rates of drug usage determined by the random urine testing currently in use by the Army and rates of usage found by use of an anonymous, self-report survey instrument; and (b) to examine the procedures being used in the field to implement random urine testing, in order to determine the variations in procedures and to observe the advantages and problems associated with each variation. As hypothesized from previous survey research, the self-report rate of drug use was much higher than that found from urine testing. There is reason to believe that the difference may at least in part be due to problems in implementing the program. Regardless of what procedures were used, there were means by which a potentially identifiable user could escape detection. The role of the individual unit commander was found to be crucial in determining the effectiveness of the system.

NSF-ED—Eastern Division

Strategies for Developing and Disseminating Computer-based Curricular Materials (Research for the National Science Foundation)

Learning Alternatives in U.S. Education: Where Student and Computer Meet, by Beverly Hunter, Carol S. Kastner, Martin L. Rubin, and Robert J. Seidel, 400 pp., Educational Technology Publications, Englewood Cliffs, New Jersey, January 1975.

This book contains detailed information on various subjects pertaining to computer-based learning materials (CBLM). The information is organized and discussed from several themes. The basic theme in the chapter on the current state of affairs of computers in education is diversity of activities and purpose. A discussion on learning in the future involves the theme of interdependence of social goals, values, educational reform, and technology. The chapter on today's computer-based learning methods is organized around three themes: (a) computer applications to learning are important to different people for different reasons and in many ways, (b) the interdependence of the *what* and *how* of learning, (c) a focus on learning activities. In the chapter on development, the variety of approaches to developing innovative CBLM is discussed. Coherent strategies for dissemination are described, as is resource sharing. The theme of strategy coherence is carried forward in developing alternative national models to cope with the complexities of creating and delivering CBLM nationally to the learner.

NYSED—Division No. 5

Qualitative Review of Terminal Objectives and Approximations in Reading
(Research for the New York State Education Department)

Qualitative Review of Terminal Objectives in Reading, by William H. Melching, Professional Paper 21-74, 10 pp., November 1974; based on paper for American Educational Research Association meeting, Chicago, Ill., April 1972. ED-061 274 PB 238 776

This paper describes the results of an effort to apply a HumRRO-developed classification system to a set of terminal objectives in reading. The classification system contained five factors, of three levels each. Some 312 terminal objectives (and 766 approximations) were classified by three raters. Agreement among raters was sketchy at the start of the rating, but improved dramatically with practice. It was concluded that (a) classifying objectives is a useful procedure by which to evaluate their communicability, (b) the verb is probably the most important aspect of an objective, and (c) reading objectives are no more difficult to classify than are objectives in other instructional content areas.

PARIS—Western Division (CA)

Assessing Relevance of Indirect Services in Schools
(Research for the Department of Health, Education, and Welfare, National Institutes of Mental Health)

Procedures for Surveying School Problems: Some Individual, Group, and System Indicators, A Manual, by Elaine N. Taylor, Robert Vineberg, and S. James Goffard, HumRRO paperback (HumRRO Technical Report 74-22), 80 pp., October 1974.

This manual presents information on three instruments designed for surveying mental health problems in schools. The instruments are two questionnaires (the School Problem Area Survey—Staff and the School Problem Area Survey—Students), and a guide (the Demographic Information Form) for an interview by a mental health consultant with a school principal. The questionnaires are designed to obtain information about potential problems in schools which may be amenable to treatment by mental health indirect services programs carried out by mental health consultants and members of the school's staff. Analyses indicated the questionnaires appear to be both a reliable and a valid means of identifying major sources of discontent in a school, provided the respondents are willing to cooperate in answering the questions.

"Making Consultation Services More Relevant to School Needs," by Elaine N. Taylor, paper for the Annual Meeting of the American Association of Psychiatric Services for Children, New York, November 1974.

For indirect services to be relevant, plans for intervention should be based upon (a) comprehensive information about the school, (b) systematic procedures for estimating the relative salience of the various problems identified in the school, and (c) an appropriate rationale for assigning priorities for intervention among the problems. Planning more relevant consultation services requires that the consultant and the school follow systematic procedures in identifying problems and selecting treatments. The procedures recommended are: (a) surveying school needs, (b) identifying the most salient problems, (c) specifying objectives and selecting treatments, and (d) assigning priorities for intervention. The paper discusses three survey instruments used for assessing mental health needs in schools.

PREDICT—Central Division (D)

Correlational Analysis of Aviator Performance
(Research for the Department of the Army)

Multivariate Extrapolation of Training Performance, by James W. Dees and L. Paul Dufilho, Technical Report 75-16, 145 pp., June 1975. AD-A014 172

This report summarizes the techniques used in gathering and maintaining a data file on most of the Army aviator trainees who have been through the Officer/Warrant Officer Rotary Wing Aviator Course 2C-1981-B/2C-062B-B and the Warrant Officer Candiate Course 2C-062B-C during

PREDICT *(Cont.)*

the period 1 July 1968-31 December 1969. Specific regression analyses dealing with the prediction of student performance in training are furnished, and the methods used to obtain them are described. The equations allow the extrapolation of current training performance to a prediction of (a) the probability that the individual will pass the course, and (b) what his final end-of-course grade will be. A review of the most pertinent literature in the area is included as are frequency counts of a large volume of training data.

PRETAC—Central Division (L)

The Derivation of a Standardized System for Unit Performance Objectives (Research for the Department of the Army)

The Validation of the Task Inventory of the Tank Company, Platoon, and Crew and the Development of Conditions and Standards of the Task Inventory, by W.L. Warnick, R.E. O'Brien, R.E. Kraemer, R.D. Healy, and R.C. Campbell, Research Product RP-D2-74-3, Volumes I and II, June 1974.

The methodology used in developing task inventories for the tank company, platoon, and crew is explained and procedures used to validate the task inventories during the field survey are described. Importance ratings for each task or subtask in the inventories and identification of company and platoon sub-elements which perform the task or subtask are presented. The methodology described will aid in the application of "systems engineering" as applied to deriving performance requirements for unit training, training program, and training test development. The conditions and standards for each task or subtask are presented in the report.

Procedures for the Derivation of Mission-Relevant Unit Task Statements, by Richard E. O'Brien, Ronald E. Kraemer, and Donald F. Haggard, Technical Report 75-4, 159 pp., May 1975. AD-A012 673

A methodology was developed for systems engineering unit training of the Armor Company (tank) and subordinate elements (platoon and crew). The methodology addressed the first six steps of systems engineering unit training: (a) systems familiarization, (b) mission analysis, (c) task identification, (d) developing task inventories, (e) selecting tasks for training, and (f) task analysis. Two additional steps--(a) the development of Army Training Programs, Army Subject Schedules, and Army Training Tests, and (b) quality control--were not addressed, as these steps are within the purview of the U.S. Army Armor School and other appropriate Army service schools.

PROGMOD—Eastern Division

Consulting Services in Support of Performance of an Army Contract (Research for the System Development Corporation, Integrated Systems Support, Inc.)[1]

A Production Environment Evaluation of Interactive Programming, by Joel Reaser (HumRRO), I. Priesman (SDC), and J. Gill (ISSI), USACSC Final Technical Report USACSC-AT-74-03, December 1974.

This report describes an evaluation of interactive programming versus batch programming within an actual software production environment at the U.S. Army Computer Systems Command. The purpose of the study was to determine the productivity and cost effectiveness differences between the two modes of operation. The study was conducted in a production environment with the programmers completing their normally required workload and providing documentation on tasks routinely assigned to them. The results of this study indicate that on a line-of-code basis the interactive system offers an increase in productivity and a decrease in overall cost, as compared to the batch processing procedure. Continued support of the interactive system is recommended.

[1] These reports were prepared by Integrated Systems Support, Inc., a subsidiary of the System Development Corporation, for the U.S. Army Computer Systems Command. Mr. Priesman is with SDC; Mr. Gill is with ISSI; Mr. Carrow is with USACSC.

PROGMOD *(Cont.)*

Interactive Programming: Summary of an Evaluation and Some Management Considerations, by Joel M. Reaser (HumRRO) and John C. Carrow (USACSC), USACSC Technical Documentary Report USACSC-AT-74-03, March 1975.

This report summarizes the results of an evaluation of interactive programming versus batch programming within an actual software production environment at the U.S. Army Computer Systems Command. The purpose of the study was to determine productivity and cost effectiveness differences between the two modes of operation. The results of the study indicate that, on a line-of-code basis, the interactive system offers an increase in productivity and a decrease in overall cost. Based on the data gathered formally and informally from the programmers, topics are discussed which should be considered in management planning for interactive programming.

RECRUIT—Eastern Division
Research on Recruiting
(Research for the Department of the Army)

A Further Examination of Enlistment Motivation and the Disposition of Army Applicants, by Richard E. Kriner, Richard J. Orend, and Leslie S. Rigg, Technical Report 75-15, 61 pp., June 1975. AD-A012 682

Research was performed to (a) determine the structure of reasons that lead to the enlistment decision, (b) isolate factors that lead some initial Army applicants to enlist in one of the other services instead of the Army, and (c) compare data collected in a draft-free environment (FY74) to data collected in FY72. Data were obtained (from questionnaire responses) at Armed Forces Examining and Entrance Stations. According to the surveys, the Army's main attraction has been its ability to provide some kind of training to enlistees. Other findings revealed: (a) an 8% increase in the proportion of Army enlistees who initially preferred another service; (b) the Army gained in educational quality and lost in mental quality of its applicants; (c) in 1974, the Army gained more non-white enlistees than it lost; (d) age, geographic region, and educational level were the most important characteristics associated with making the Army an enlistee's first choice of service.

SKIM—Western Division (TX)
Organizational Management Skill Development
(Research for the Department of the Army)

Student Manual: Individual and Group Problem-Solving Workshop, by John P. Fry, Research Product RP-WD-(TX)-74-1, March 1974.

This manual contains instructional material which will enable Army leaders to acquire the basic concepts and principles of individual and group problem-solving. However, the acquisition of these concepts and principles as behavioral skills is the training goal. A workshop format (primarily role-playing) is utilized to provide students with a means of practicing behavioral skills and obtaining corrective feedback.

Student Manual: Performance Management Workshop, by John P. Fry, Susan M. Larson, Michael R. Hagerty, and Paul G. Whitmore, HumRRO Research Product RP-WD(TX)-75-1, February 1975.

This manual contains instructional material which will enable Army leaders (a) to acquire the basic concepts and procedures of performance management and (b) to train their immediate subordinates in its use. A workshop format is used throughout and leads directly to on-the-job application. In general, the materials were prepared to test out the effectiveness of implementing performance management within Army battalions.

SKIM *(Cont.)*

Student Manual: Management by Objectives Workshop, by John P. Fry, William H. Melching, Susan M. Larson, HumRRO Research Product RP-WD(TX)-75-2, March 1975.

This manual contains instructional material which will enable Army leaders (a) to acquire the basic concepts and procedures of Management by Objectives (MBO) and (b) to train their immediate subordinates in the use of MBO. A workshop format is used throughout and leads directly to on-the-job application. In general, the materials were prepared to test out the effectiveness of implementing Management by Objectives within Army battalions.

Development, Implementation, and Evaluation of Leadership/Management Training Within Army Battalions: Volume 1, Summary of Findings; Volume 2, Technical Appendices, by John P. Fry and Robert E. Cliborn, Final Report FR-WD(TX)-75-11, June 1975. AD-A012 773 (Vol. 1) AD-A012 774 (Vol. 2)

This report describes the development and evaluation of an experiential-based, leadership/management training program that was implemented within three battalion-sized combat units at Fort Bliss, Texas, in 1974. The project was part of a Headquarters, Department of the Army experimental Motivational Development Program which was conducted from 1972-1975. Results were consistent with previous research findings; that is, attitudinal data were positive, but "hard" data, such as performance improvement, were inconclusive, especially since sufficient longitudinal data had yet to be collected.

SLIPE—Eastern Division

A Summative Evaluation of Six Experimental School Library Media Educational Programs
(Research for the American Library Association)

Evaluation of Alternative Curricula, Approaches to School Library Media Education, [HumRRO Final Report FR-ED-74-5, December 1974], by Robert N. Case (ALA), Anna Mary Lowrey (ALA), C. Dennis Fink, and Harold Wagner, published by American Library Association, Chicago, Illinois, 194 pp., 1975.

This report presents the results of the third phase of a project to study school librarianship and "to support the effective utilization of professional school library media personnel through the implementation and evaluation of a variety of new and innovative educational approaches." The survey procedures and instruments used in a follow-up survey of graduates of six experimental program models in school library media education are described. Information about each was obtained from four sources—program directors, program graduates, supervisors of program graduates, and students attending the programs. The experimental programs consisted of one at BA-level, four that essentially were MA-level, and one sixth-year program. Personal interviews were conducted with program graduates using structured questionnaires. The Behavioral Requirements Analysis Checklist (BRAC) survey instrument was used to obtain information about individual tasks. The survey demonstrated that the experimental programs produced acceptable graduates, and that satisfactory survey procedures had developed for evaluating the field relevancy of professional school library media education programs.

SOURCE—Central Division (C)

Organizational Factors in Work and Performance
(Research for the Department of Health, Education, and Welfare, Social Rehabilitation Service)

"Satisfaction and Performance in Welfare and Rehabilitation Agencies," by Joseph A. Olmstead, *Social and Rehabilitation Record*, September 1974, pp. 25-28.

The findings of a completed study of agency work contexts are summarized. The principal objective of the study was to identify organizational factors that impact upon social welfare and rehabilitation personnel, their attitudes and their performance, and the effectiveness of their agencies. Data were collected in service-delivery departments of 12 public welfare, 9 private welfare, and 10 public rehabilitation agencies throughout the United States. Wide differences between agencies were found with respect to organizational factors.

SOURCE *(Cont.)*

Study of Agency Work Contexts: Program Application Reports, National Study of Social Welfare and Rehabilitation Workers, Work, and Organizational Contexts, by Joseph A. Olmstead and Harold E. Christensen, HumRRO Professional Paper 18-74, November 1974. (Based on HumRRO research products issued as Report No. 1, *Implications for Supervision*, (SRS) 74-05405, December 1973; Report No. 2, *Implications for Administration*, (SRS) 74-05406, December 1973; Report No. 3, *Implications for Personnel Management*, (SRS) 74-05407, December 1973; Report No. 4, *Implications for Training*, (SRS) 74-05408, December 1973; and Report No. 5, *Implications for Organizational Development*, (SRS) 74-05409, December 1973.)

Results and implications of an intensive field study concerned with the effects of work contexts on the attitudes and performances of personnel employed in social welfare and rehabilitation agencies are summarized. Five major areas of concern to agency management and administration are examined. Results include (a) the identification of a number of functions common to better supervisors in more effective agencies; (b) the relationships of agency structure and climate to satisfaction, absenteeism, and both individual and agency performance; (c) satisfactions of agency personnel according to age, education, and job class; (d) indication of some specific areas to which training should be directed; and (e) data indicating that the climate within an agency is a principal determinant of its organizational competence.

Managing the Context of Work, by Joseph A. Olmstead, Professional Paper 1-75, 12 pp., February 1975; adapted from several chapters in the SRS publication *Working Papers No. 2, Organizational Structure and Climate: Implications for Agencies, National Study of Social Welfare and Rehabilitation Workers, Work and Organizational Contexts*, February 1973.

The importance of the environment or work context of an organization is stressed as crucial to the effectiveness of both the individual and the organization. The structure (task-centered aspect) and climate (motivational aspect) of the organization are the components of which the work context is comprised. In order to develop and maintain favorable work contexts, these components must achieve a reasonable balance. Some principal factors enhancing to proficiency, motivation, and organizational identity are presented. However, an organization's chief resources, and the most flexible, are the human resources. The most effective utilization of human resources is dependent upon three controlling factors of organizational performance: effective management, essential in mobilizing all parts to goal attaiment; effective leadership, a crucial factor in *all* levels of the organization; and effective training necessary for the development of skills to upgrade organizational efficiency.

SYNTRAIN—Central Division (D)
Modernization of Synthetic Training in Army Aviation
(Research for the Department of the Army)

Mission Suitability Testing of an Aircraft Simulator, by Paul W. Caro, Robert N. Isley, and Oran B. Jolley, Technical Report 75-12, 66 pp., June 1975. AD-A012 680

Device 2B24, the first subsystem of the U.S. Army's Synthetic Flight Training System (SFTS), was evaluated to determine its suitability for cost-effectively accomplishing the instrument phase of Army rotary wing flight training and facilitating UH-1 transition training, aviator proficiency evaluation, standardization, and flight training quality control. The device, which simulates the UH-1 helicopter and an instrument flight environment, was designed for those training-related purposes. The three-phase mission suitability test involved examining the 2B24's advanced features in a training context, developing a new instrument training program for use with the device, and administering that training to 16 volunteer officers who had completed Army primary rotary wing training (100 hours) but had no helicopter or instrument flight experience. Results confirmed the device's mission suitability regarding both cost (per-student saving of over $4,000) and transfer of training (instrument training concluded in an average of 6.5 flight hours, as opposed to 60 flight hours for students in the existing program). Findings also indicated that the standardization, evaluation, and quality control goals had been partially met, and that the device's design is such that their fuller achievement is likely in the future.

SYNTRAIN *(Cont.)*

Training Programs for the Synthetic Flight Training System, by Oran B. Jolley, Robert N. Isley, and Edward J. Miller, Final Report FR-CD(D)-75-3, June 1975.

This report summarizes final projects of Work Unit SYNTRAIN. The purpose of SYNTRAIN has been to expedite the application of advances in training technology to the design and utilization of Army aviation synthetic training equipment. An operational suitability test of Device 2B24 was conducted to evaluate the device's potential for cost-effectively accomplishing the instrument phase of Army rotary wing flight training and facilitating UH-1 transition training, aviator proficiency evaluation, standardization, and flight training quality control. Test results confirmed the device's mission suitability regarding both cost-effectiveness and transfer of training. The development and status of automated training programs utilizing Device 2B24 are discussed. Only portions of the experimental training program were tried out; a description serves only as the basis for future development.

TEC II-CATB—Central Division (C)
Test and Evaluation of Training Extension Course (TEC)
(Research for the Department of the Army)

An Evaluation of the Utilization, Maintenance and Perceived Benefits of the Training Extension Course (TEC), by Michael R. McCluskey and James M. Tripp, Technical Report 75-18, 127 pp. June 1975. AD-A015 006

This report evaluates the Training Extension Course's (TEC) implementation program, providing the military sponsoring agency data with which to identify possible alternative actions for improving the implementation, management, and distribution of TEC on an Army-wide basis. The basic format for the TEC system consisted of self-paced, audio-visual instruction. The evaluation used questionnaires, interviews, maintenance forms, and a utilization form to obtain information which might make the Army-wide distribution of TEC more effective and efficient. Initial distribution of TEC materials was limited to a select group of Active Army and Reserve Component units. A survey of these units indicated that, for utilization to reach desired levels, the TEC system would probably have to be promoted, demonstrated, and "sold" to Unit Training Officers/NCOs.

TYPETRAIN—Division No. 3
Development of Improved Army Typing Training Programs and Materials
(Research for the Department of the Army)

A Comparison of Alternative Media for Teaching Beginning Typists, by Morris Showel, Professional Paper 17-74, 7 pp., November 1974; reprint of article in *Journal of Educational Research*, vol. 67, no. 6, February 1974, pp. 279-285.

Eight different training programs involving a variety of media were evaluated in terms of their effectiveness in developing the straight copy typing skill of male military personnel who typed 10 or less words per minute on a screening test given prior to the start of training. Subjects received a maximum of 33 hours of typing practice over a 9-day period, and tests to measure progress were administered after one hour of practice and after every 3 3/4 hours of practice thereafter. The most effective programs devoted relatively little time to detailed instruction during keyboard learning and emphasized speed by forced pace during skill building.

UNCLE—Division No. 7 (Social Science)

Research Studies and Analyses in Procurement, Utilization Performance, Retention, and Separation of Military Personnel

(Research for the Office of the Assistant Secretary of Defense, Manpower and Reserve Affairs)

The Use of Spanish Surnames as a Means of Identifying Latinos in the United States and Puerto Rico, by G. Lee Giesecke, Professional Paper 22-74, 20 pp., December 1974. AD-004 017

In this paper, the use of Spanish surnames as a way to identify Latinos (persons living in the United States with Latin-American birth or ancestry) is examined. The problems attendant upon this method are discussed, along with the question of whether there are more attractive alternatives. Data are from a questionnaire mailed to a sample of 5,019 former servicemen, meeting various criteria, including a Spanish surname.

UPGRADE—Central Division (D)

Improving Aviation Maintenance Training Through Task and Instructional Analysis

(Research for the Department of the Army)

UH-1 Helicopter Mechanic (MOS 67N20) Job Description Survey: Performance of Specific Maintenance Tasks, by Russel E. Schulz, Barbara K. FitzGerald, and Wallace W. Prophet, Technical Report 75-13, 291 pp., June 1975.

This report is the second of two reports describing the results of a worldwide survey of the maintenance activities of over 5,000 UH-1 helicopter mechanics (MOS 67N20). A job description inventory covering 1,323 helicopter maintenance tasks was administered by mail and by research teams in the field. The report provides detailed data on the performance of the maintenance tasks by combat job incumbents in Vietnam, and a comparison of job performance by organizational and DS/GS level mechanics.

BASIC RESEARCH STUDIES

(Research for the Department of the Army)

Basic Research 20—Eastern Division

Design of a New Technique for Changing Racial Attitudes Among Military Personnel

Vicarious Attitude Change and the Design of "Message" Films: Application to Race Relations, by Alfred J. Kraemer, Deborah Hansen Bercini, and John D. Harris, Technical Report 75-8, 34 pp., June 1975.

Can the persuasiveness of a "message" film be increased by showing the target audience the persuasive effects of the message on a "model"? The racial attitudes of four groups of white soldiers were compared. Group I had watched a video recording of a soldier viewing the film *Black and White: Uptight*, showing the positive effects of that film on his racial attitudes; Group II had seen a version of the recording in which the model's attitudes were not affected; Group III had seen the film only; Group IV had not been shown anything. Attitude questionnaire data obtained after the viewing showed no difference between the model-changing group (I) and the film-only group (III). However, scores of both groups reflected significantly less prejudice than the scores of Groups II and IV.

GENERAL[1]

"Essential of Dimensions of Performance Tests," by William C. Osborn, paper for the 18th International Congress of Applied Psychology, Montreal, Canada, August 1974.

Performance tests are used chiefly in evaluating training outcomes. The critical dimensions of a performance test are: (a) Directness or relevance of the method of testing; a test method is relevant or direct if it evokes a performance that is the same as that specified in the actual job-task. (b) Test criterion; product measurement is more important than process in certifying a person's achievement on a job task, and failure to include it as the principal criterion may severely limit test validity. (c) standardization of conditions under which a test is administered. (d) Test scoring; scoring protocols impact primarily on reliability, but if mishandled in test design, they may jeopardize test validity.

The Army Officer as Performance Manager, by John P. Fry, Professional Paper 13-74, 13 pp., August 1974. AD-A000 839 ED-101 609

This paper describes the results of one Army officer's experiment in applying the techniques of psychological research on the job. With a view to developing his subordinates' leadership ability and initiative, and permitting them an active role in managing the battalion, he emphasized particularly the principles of "contingency management" (motivation by incentives), "participative management" (group problem-solving and decision-making), and "performance counseling." Despite some initial resistance by other officers, the experiment paid off in terms of battalion morale, which was rated high, responsiveness, and esprit de corps. Although emphasis was on self-motivation rather than the threat of punishment as a motivating force, there was no breakdown in discipline. Future development and field-testing will be needed to provide additional information for evaluating the use of such leadership techniques in the Army.

"What Does Military Psychology Have to Offer Civilian Education?" by Howard H. McFann, paper for the 82nd Annual American Psychological Association Convention, New Orleans, September 1974.

The three major R&D contributions in military psychology are discussed: (a) the two systems approaches, (b) the integrated research and development organization in close relationship with the client, and (c) content and programs for adaptation or adoption.

"Structural Task Analysis—The Bridge Between Selection, Training, and Job Performance," by James W. Dees, paper for Military Testing Association Conference, Oklahoma City, October 1974.

A procedure for using Guilford's structure of the intellect as the theoretical basis for a task analysis model is presented. It is reasoned that such a model would furnish a bridge between task analysis and test selection, and also a bridge between test selection and test validation. Such a mechanism might answer some of the EEOC criticisms of psychological testing because of the inherent content validity of the technique. In addition, the technique could be used to produce task analyses of both a job and training for that job. A comparison of the structural task analysis of the job and job training would expose discrepancies where abilities not required on the job are required for training. It might be then possible to modify training to bring the abilities required for training more in line with those required for the job, thus ultimately providing a bridge between task analysis through selection to training, and ultimately to job performance.

Process Versus Product Measures in Performance Testing, by William C. Osborn, Professional Paper 16-74, 7 pp., October 1974; based on paper for the Military Testing Association Meeting, San Antonio, Texas, October 1973. PB-238 416 ED-102 206

Performance tests are used in training evaluation to (a) certify student achievement, and (b) diagnose weaknesses in the instructional system. Proficiency measures that focus on task outcomes (product) normally provide data relevant to the first purpose, whereas measures of

[1]Items in this section either are not directly related to specific elements of the research program, or are related to several elements.

"Functional Literacy for Job Performance," by Thomas G. Sticht, paper for the 22nd International Technical Communication Conference, Anaheim, California, May 1975; in *Proceedings*, Society for Technical Communication STC-60-75, pp. 178-180, 1975.

Research findings bearing on these questions are presented: (a) How well can different readers read technical communications? (b) How can their reading skills in the technical field be improved? (c) How can writers produce more functional written materials? HumRRO's Functional Literacy Research Program, a program involved in improving literacy skills of personnel and the readability/usability of technical materials, is summarized. Information about HumRRO's guidebook for writers of Army training literature is presented.

Reading for Working - A Functional Literacy Anthology, Thomas G. Sticht (ed.), HumRRO paperback, 196 pp., 1975. ED-102 532

This anthology comprises a synoptic review of the HumRRO research program on literacy in relation to job performance. Part I reports research to develop general methodologies for estimating functional literacy demands of jobs. Part II, which contains collected papers on functional literacy, is concerned with methods of reducing discrepancies between personnel literacy skills and the literacy demands of jobs. Both Parts I and II report programmatic work on literacy under Army sponsorship; Part II deals more generally with problems of adult literacy within and outside the Department of Defense.

"Reading Requirements for Career Entry," by Thomas G. Sticht and Howard H. McFann, in *Reading and Career Education*, Duane M. Neilsen and Howard F. Hjelm (eds.), Perspectives in Reading No. 19, International Reading Association, Newark, Delaware, 1975; based on paper for the Nineteenth Perspectives in Reading Conference, New Orleans, Louisiana, April 1974.

A review and critique of several methods used to determine reading requirements of jobs is presented. The determination of which method is best depends upon the resources available to the analyst and the purpose of the analysis. Little attention has been given to the use of empirical methods for establishing levels of general reading ability needed for successful job training. Certain methods may be used with greater numbers of jobs and with career education programs to better match credentials requirements and program demands.

Appendix A

FY 1975 TECHNICAL REPORTS AND PROFESSIONAL PAPERS BY NUMBER[1]

Technical Reports

74-19 *The Development and Evaluation of a Correspondence Training Program for Tumor Registrars.* (Research for Charity Hospital, New Orleans, La.) (ASTARTE)

74-20 *Drug Usage Rates as Related to Method of Data Acquisition.* (MODE I)

74-21 *Changes in Soldier Attitudes.* (ESPRIT II-IV)

74-22 *Procedures for Identifying Mental Health Problems in Schools.* (Research for the Department of Health, Education, and Welfare) (PARIS II)

74-23 *Safe Performance Curriculum for Secondary School Driver Education: Program Development, Implementation, and Technical Findings.* (Research for the Department of Transportation) (DOT-MC)

74-24 *Transfer and Use of Training Technology: A Model for Matching Training Approaches With Training Settings.* (Research for the Department of the Air Force) (AFTEC)

74-25 *Research on Assessment Criteria and Counseling Methods.* (IMPRESS)

74-26 *CHARGE Interactive Graphics System Terminal: Theory of Operation.* (CATALIST A)

75-1 *Disabled Veterans of the Vietnam Era: Employment Problems and Programs.* (Research for the Department of Labor) (ENABLE)

75-2 *Self-Disclosure on Army Surveys: Survey Procedures and Respondent Beliefs Related to Candidness.* (MODE III)

75-3 *CHARGE Image Generator: Theory of Operation and Author Language Support.* (CATALIST B)

75-4 *Procedures for the Derivation of Mission-Relevant Unit Task Statements.* (PRETAC A)

75-5 *MONIFORMS as Authoring Aids for the PLATO IV CAI System.* (CATALIST D)

75-6 *Improving the Classroom Performance of Army Instructors.* (CLASSROOM)

75-7 *Learner Control of Instructional Sequencing Within an Adaptive Tutorial CAI Environment.* (CATALIST C)

75-8 *Vicarious Attitude Change and the Design of "Message" Films: Application to Race Relations.* (BR 20)

75-9 *A Test of the Forced-Alternative Random Response Questionnaire Technique.* (MODE)

75-10 *A Study of the Retention of Skills and Knowledge Acquired in Basic Training.* (ATC-PERFORM A)

[1] Research for the Department of the Army unless otherwise noted.

75-11 *The Effects of Group Size and Presentation Method on the Impact of a Drug Presentation.* (COMMUNICATE A)

75-12 *Mission Suitability Testing of an Aircraft Simulator.* (SYNTRAIN A)

75-13 *UH-1 Helicopter Mechanic (MOS 67N20) Job Description Survey: Performance of Specific Maintenance Tasks.* (UPGRADE)

75-14 *Randomized Inquiry vs. Conventional Questionnaire Method in Estimating Drug Usage Rates Through Mail Surveys.* (MODE I-B)

75-15 *A Further Examination of Enlistment Motivation and the Disposition of Army Applicants.* (RECRUIT III-A)

75-16 *Multivariate Extrapolation of Training Performance.* (PREDICT)

75-17 *The Prevalence of Drug Abuse in the Army: A Comparison of Urinalysis and Survey Rates.* (MODE II)

75-18 *An Evaluation of the Utilization, Maintenance, and Perceived Benefits of the Training Extension Course.* (TEC II-CATB)

75-19 *Self-Pacing a Gross Motor Skills Course: Crawler Tractor Operator, MOS 62E20.* (ATC-PERFORM B)

75-20 *Self-Paced Instruction in a Cognitively Oriented Skills Course: Supplyman, MOS 76Y10.* (ATC-PERFORM C)

75-21 *Establishing the Concepts and Techniques of Performance-Oriented Training in Army Training Centers: A Summary Report.* (ATC-PERFORM D)

Professional Papers

13-74 *The Army Officer as Performance Manager.* (General)

14-74 *The Motion Variable in Procedural Learning.* (MEDIA)

15-74 *Student Initiated Reports: Operational Analysis in the Evaluation of CAI Curricula.* (CATALIST)

16-74 *Process Versus Product Measures in Performance Testing.* (General)

17-74 *A Comparison of Alternative Media for Teaching Beginning Typists.* (TYPETRAIN)

18-74 *Study of Agency Work Contexts: Program Application Reports, National Study of Social Welfare and Rehabilitation Workers, Work and Organizational Contexts.* (Research for the Department of Health, Education, and Welfare) (SOURCE)

19-74 *Research in Military Training.* (General)

20-74 *System Concept in Education.* (General)

21-74 *Qualitative Review of Terminal Objectives in Reading.* (Research for the New York State Education Department) (NYSED)

22-74 *The Use of Spanish Surnames as a Means of Identifying Latins in the United States and Puerto Rico.* (Research for the Department of Defense) (UNCLE)

1-75 *Managing the Context of Work.* (Research for the Department of Health, Education, and Welfare) (SOURCE)

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American Library Association
- SLIPE

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- AUDREAD

Department of the Army
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- COMMUNICATE
- COPE
- ESPRIT
- FLIT
- HITVAL
- IDENTIFY
- IMPRESS
- INTERFACE
- LEADDIM
- MEDIA
- MODE
- PREDICT
- PRETAC
- RECRUIT
- SKIM
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- TEC II-CATB
- TYPETRAIN
- UPGRADE

Department of Defense
- UNCLE

Department of Health, Education, and Welfare
- PARIS
- SOURCE

Department of Labor
- ENABLE

Department of Transportation
- DOT-MC

Louisiana Regional Medical Program
- ASTARTE

National Library of Medicine
- MEDNET

National Science Foundation
- NSF-ED

New York State Education Department
- NYSED

Supplemental Education Service, Inc.
- ASSERT

System Development Corporation
- PROGMOD

U.S. Coast Guard
- AVTRAIN

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